69. Columba arquatrix Temm.; Salvad. Cat. B. Brit. Mus. xxi. p. 276 (1893).

Palumbus arquatrix Sharpe, Ibis, 1892, p. 548.

No. 94, d. Machako's, Sept. 11, 1896.

Very wild; common on bushy hills, but hard to get near.

70. Turtur senegalensis (L.); Sharpe, Ibis, 1892, p. 547.
No. 28, ♂. Machako's, April 28, 1896.
Very common.

71. Pterocles gutturalis Smith; Sharpe, Ibis, 1892, p. 549.

Nos. 55, 56, 3 9. Near Machako's, July 27, 1896.

72. Francolinus uluensis Ogilvie Grant; Sharpe, Ibis, 1892, p. 551.

No. 73, ♀. Machako's, Sept. 11, 1896.

No. 74, 9. , Sept. 3, 1896.

No. 83, 3. ,, Oet. 3, 1896.

73. Pternistes infuscatus Cab.; Sharpe, Ibis, 1892, p. 552.

No. 91, &. Machako's, Oct. 1, 1896.

L.—On the Orcadian Home of the Garefowl (Alca impennis). By Alfred Newton.

In 1888 Mr. Buckley, one of the authors of the 'Vertebrate Fauna of the Orkney Islands,' made a survey of Papa Westray, being naturally desirous of ascertaining the actual breeding-place—reputed to be thereon—of the extinct species about which so much has been written, and found what struck him "as being very likely indeed for it" (op. cit. p. 249). This was a shelving rock on the west side; but the next year Mr. Harvie-Brown, the other author of that valuable volume, visiting the spot, saw that it was unsuitable; for the surf, though there was not much wind at the time, ran up the slope, and in a gale would evidently dash against

the very face of the cliff above (op. cit. p. 250). Furthermore, an examination of the whole island showed that there was no possible breeding-place for such a bird as this upon it, though he made out to the satisfaction of all where the bird had been accustomed to rest; and by a very unexpected piece of good fortune ascertained the precise spot where, and the circumstances in which, the last of the Oreadian Garcfowls met its death. To the fidelity of the plate (op. cit., to face p. 246) representing some of the remarkable series of waterworn caves on the north-east corner of the island—the Fowls' or Auks' Crag, one of which was the scene of the tragedy of 1813—I can bear witness; and there is no reason to doubt the conclusions at which he arrived (op. cit. p. 257).

Unfortunately I had failed, prior to the publication of this book, to appreciate a piece of information which had long been in my possession, and accordingly I had omitted to communicate it to the authors. Though it cannot be doubted that the "King and Queen of the Auks," to use what Bullock tells us was their local title, resorted to Fowls' Crag as a resting-place, that island was really not the one on which their breeding-place was situate; but, as a memorandum, written in the autumn of 1858 by the late Mr. John Wolley*, shows, the breeding-place, as I have elsewhere stated (Dict. Birds, p. 307, note 1), must have been on the Holm of Papa Westray, a small island lying to the eastward of the larger one, from which it is separated by a comparatively narrow and shallow sound, and well described by Mr. Buckley (ut suprà, pp. 21, 22). How Wolley became aware of this fact I cannot explain, for I have met with no other record of it+; but that his information was correct I do not for a moment doubt, as it is now confirmed by my own

† He possibly had it verbally from Salmon, who was on the Holm of Papa Westray in 1831 (Mag. Nat. Hist. v. pp. 418, 420).

^{*} Wolley's memorandum is headed "Questions concerning the Great Auk in the Holm of Papa Westra," and consists of a carefully-prepared catechism to be submitted, through Mr. Hughes of Borrowstoneness, to the then Mr. Traill of Papa Westray. The meagre results of these enquiries have already been given by Messrs. Buckley and Harvie-Brown (op. cit. pp. 247, 248).

examination of the locality, and I very much regret that I had not sooner made my friends acquainted with it, for thus they would have been saved from some perplexity, and, their own investigations having been more complete, would have rendered the present notice unnecessary.

The significance of this fact, when I had duly perceived it, coupled with the statement (to which I have just referred) of Mr. Harvie-Brown as to the unsuitableness of any part of the larger island for a breeding-place of the Garefowl, made me very desirous of seeing for myself the Holm of Papa Westray, and on the 30th of June, 1893, I had the pleasure of being taken in the yacht of my kind friend Mr. Henry Evans to view it. As we steamed northward along its eastern and seaward side, keeping as near the shore as was considered to be prudent, there was at first little encouragement; but, after passing the north-eastern end of the islet, we were able to look back, and then saw, though at a considerable distance, the land falling away in a succession of large flake-like slabs, sloping in a north-westerly direction toward the sound or channel between the Holm and the larger island. This seemed to me to form so likely a breedingplace for this flightless bird that I longed for an opportunity of examining it more closely, and even of landing upon it. Though Mr. Evans took me to the Orkneys again in 1896 and 1897, and was anxious that I should accomplish my wish, the weather and other considerations hindered us from approaching so near to the Holm as we had done in 1893; but in the present summer my desire was fulfilled. On the 27th of June, 1898, we left Kirkwall about 6 o'clock in the morning, and, the weather being propitious, we some hours after reached the southern entrance of the sound between Papa Westray and its Holm. Then, embarking in the ship's boat, we were rowed up the sound along the western side of the Holm. Its southern end and the adjoining shore are encumbered with large rounded boulders, which would render a landing inconvenient if not impossible for a Garefowl. this immediately succeeds a little bay of less forbidding aspect, for it was enlivened by the presence of ten Grey Seals

(Halichærus grypus) basking in the sunshine on its margin, and then follows a low grassy shore, with some sandy beaches -pleasant enough to look upon, especially as there were plenty of birds of various kinds about, but not promising for our particular object. However, I did not lose faith in the vision of sloping slabs which I had had from the other end five years before; and as we proceeded the prospect of them began to open out, until at last, when we arrived opposite to them, my expectations in regard to the suitableness were (as seldom happens) surpassed. Completely protected from the westward, and sufficiently from the northward, by the larger island, Papa Westray itself, and having on the east the higher land of the Holm, which towards its northern end, "the How," rises to form a lowish eliff, there was a broad expanse of shelving rock dipping down to the water's edge and continued beneath the sea at the same slope. Here would be room for a regiment of Anks to have landed at any state of the tide*, and to have marched in line up the gentle ascent so far as they wished to go, even to the very turf-covered soil of the islet, while some three or four deep chasms running inward, at right angles to the flaky slabs, would serve on occasion to diminish the length of the land-journey to any aspiring Auk, or to facilitate the escape of one threatened by danger. The surface of the sloping shelves, which form a series of steps, each only a few inches high, and succeed each other with great regularity, is even at the lower part singularly unencumbered by seaweed. On the shelves in places there is a good number of more or less waterworn stones, doubtless cast up from time to time by winter storms, and some of them are huge oblong blocks, twelve or fifteen feet in length and from a foot to eighteen inches across. Others are more rounded, and these last are piled in a ridge through which at intervals, wherever there is any soil washed down from above, the vegetation of the islet makes its way; but there is nothing that would really obstruct my imaginary regiment from advancing almost in line, as the obstacles

^{*} At the south-eastern end of the Holm, the Admiralty chart marks "Very little tide."

could be easily avoided. If there were, as tradition has it, but a single "King and Queen of the Auks" to occupy these wide slopes, the choice of a spot for the royal incunabulum would be great indeed. Of course all our party—consisting of Mr. Evans, Colonel Bolland, and Mr. Joseph Whitaker—landed, and we passed some time on this interesting spot, of which Mr. Evans obtained several photographs. I cannot doubt that it was the true home of the species whose extirpation, so far as Orkney is concerned, was compassed in 1813 by Bullock*.

A good many books have been written about Orkney, and I think I must have read most of them. So far as I am aware, there is no evidence of the occurrence of the Garefowl upon any of the islands or in Orcadian waters†, before Bulloek made known the experience of his first visit in the summer of 1812, as originally announced by Montagu (Suppl. Orn. Dict., Appendix) in 1813, the very year in which the last example, whose remains are now in the British Museum, was killed. The testimony of Low, who died in 1795, is that he had "often inquired about the Great Auk especially, but cannot find it is ever seen here"‡. I am therefore much

* We also traversed the greater part of the islet, which is mostly covered with beautiful short grass, and contains a few small pools. We saw several species of birds in addition to those noticed by Mr. Buckley on his visit ten years ago, though only such as might well be expected to occur there, as Starling, Sky-Lark, Rock-Lark, Ringed Plover, Lapwing, Redshank, Snipe, Common Gull, Eider-Duck, and Merganser, besides finding some feathers of a Sheldrake, and one which seemed to have belonged to a Teal. On the other hand, several species seen by Mr. Buckley were not observed by us, as Grey Crow, Twite, Cuckow, and Rock-Dove. A great charge must have come over the islet since Salmon's visit in 1831. I think there were not fifty pairs of Gulls upon it this year; he speaks (ut suprà) of "several thousands." Sic semper!

† Baikie and Heddle, in 1848, said (Hist. Nat. Orcad. p. 88) that "One was seen off Fair Isle in June, 1798"; but I do not know whence the information is derived, and, at any rate, the Fair Island is not one of the Orkneys.

† Through the loss of Low's Journal of 1778, when he explored the northern islands of the group, we do not know whether he was ever upon Papa Westray or its Holm. If he was there, since he had no tidings of the bird, we may be sure it did not exist there then.

inclined to suspect that the species could not have made its appearance in Orkney very long before Bullock was there. Dunn (Orn. Guide Orkney and Shetland, p. 104), though on some points perhaps not a trustworthy authority, could hardly have been mistaken in repeating the evidence of Mr. Traill, of Papa Westray, "that a pair of these birds were constantly seen there for several years." This gentleman (whose sister, I believe, it was that sent the specimen to Bullock) also stated that he supposed the birds "had a nest [!] on the island, but on account of its exposed situation the surf must have washed the eggs from the rocks, and thus prevented any further increase." The expression "for several years" is significant, as indicating that the birds had not been there from old times, and indeed, had that been the case, one could hardly imagine that the species would not have been known by its terse Scandinavian name in some form or other -for that even survived in Gaelic-speaking St. Kildainstead of by such a phrase as "King" or "Queen of the Auks."*

Cambridge, 31st July, 1898.

LI.—On a Collection of Birds from Marocco. By J. I. S. Whitaker, F.Z.S.

(Plate XIII.)

Toward the close of the year 1896 I engaged the services of Mr. Edward Dodson, with a view to sending him on a collecting-tour in Tripolitana and Cyrenaica. This trip, however, having been found to be impracticable, owing to the difficulty of travelling in the interior of the Pashalic,

* I observe in some of the older maps of the Orkneys (Wallace, 1693, reprint 1883, and Sibbald, 1711, reprint 1845) that an anchorage is marked at the north end of the sound between Papa Westray and its Holm. This could have been used only by very small vessels, as there are several rocks "awash" in that part of the channel; but if it was much frequented even by fishing-boats, their occupants could not have been good neighbours to any Garefowl, if such inhabited the shelves of the islet, not many hundred yards off.